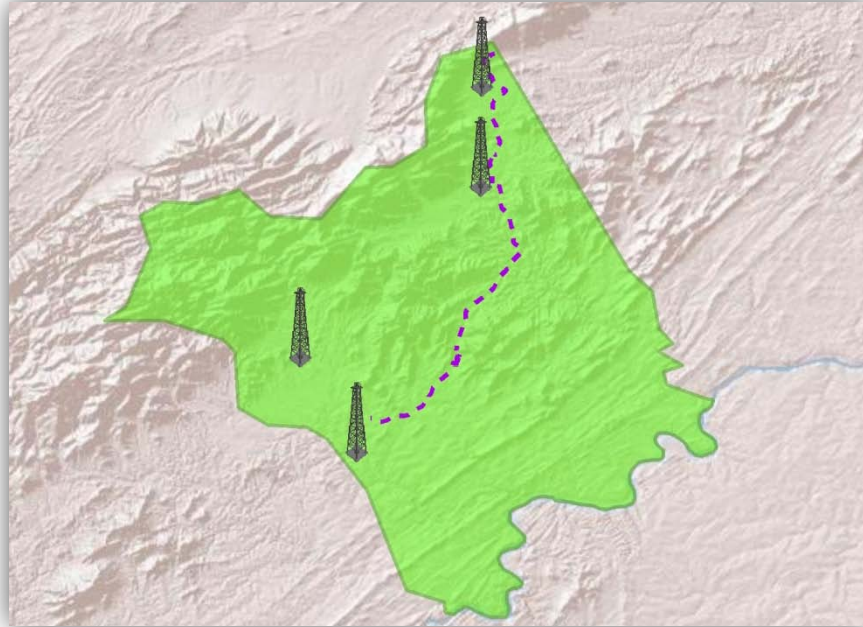


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# ENVIRONMENTAL ASSESSMENT

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## **NELSON COUNTY BROADBAND NETWORK FEDERAL BROADBAND TECHNOLOGY OPPORTUNITIES PROGRAM NELSON COUNTY, VIRGINIA**

**Prepared for: National Telecommunications & Information Administration  
American Reinvestment and Recovery Act Project #: NT10BIX5570049  
Clark♦Nexsen Project #: 3634**

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## EXECUTIVE SUMMARY

Nelson County, Virginia has been awarded American Reinvestment and Recovery Act (ARRA) grant funding via the Federal Broadband Technology Opportunities Program (BTOP) of the National Telecommunications and Information Administration (NTIA). The Nelson County Broadband Network project *as awarded* proposed to construct a thirty-one (31 mile) fiber optic backbone that is to primarily be installed aerially on existing utility poles, four (4) new wireless communication towers in the communities of Afton, Avon, Colleen and Massie's Mill, and one prefabricated building to serve as a network operations center in Lovingson. Project changes approved by NTIA prior to the completion of this environmental assessment include the removal of one (1) tower and the prefabricated building as discussed further in this project summary. The final Nelson County broadband project includes construction of a thirty-one (31) mile fiber optic backbone and three (3) new communication towers. Two of the three towers proposed will be connected directly to the fiber optic backbone network. Microwave equipment will be installed on the Massie's Mill tower to provide wireless backhaul to the fiber network for this one tower not directly connected to the fiber. All three towers will be made available to wireless providers to place equipment to offer high speed wireless services. One existing public safety tower in Lovingson will be connected to the fiber utilizing existing conduit.

The project will directly connect thirteen (13) community anchor institutions to the fiber network; these facilities do not currently have access to fiber-based broadband services. An additional eight (8) anchor institutions passed by the fiber network will be served by last mile providers. Additionally, this project will enable broadband service providers to extend digital video and data services available in only one select area of the county (Wintergreen Resort) to citizens located in Lovingson and areas south. This project will use ARRA funds to place open access infrastructure in areas where private providers have not invested in the past due to economic feasibility (i.e. low density).

Over the course of performing the environmental review the County sought partnerships and options to minimize local impact from construction of new facilities. These efforts resulted in the removal of one tower's construction (Colleen) from the project, as the County will instead collocate on an existing tower constructed by the Central Virginia Electric Cooperative to achieve project objectives, and elimination of the prefabricated building for the network operation center in Lovingson replaced with collocation space in the emergency communications center. Additionally, the County considered and rejected an all-aerial fiber construction option in the downtown Lovingson area that would require additional costs for make ready on the crowded utility poles, create project schedule delays and result in additional unsightly cables in a historic district. The no-action alternative does not meet the needs for the project, for without an investment in the middle mile fiber network, broadband services will not be deployed to the rural Nelson communities in the foreseeable future.

Clark Nexsen and Icon Engineering, Inc. have contacted interested environmental and government agencies and tribes for consultation on this project. Each interested entity was provided with full color USGS maps depicting the areas of proposed construction along with the results of research showing potentially affected resources. Each entity was given an opportunity to comment on the proposed project and its potential effect, and requests for additional information received an immediate response. The parties contacted are listed in Section 6 of this report. All of the contacted agencies have submitted responses related to the project and found no impact to resources or no adverse impacts to resources, with the exception of the Virginia Department of Game and Inland Fisheries (VDGIF) and the Virginia Marine Resources Commission (VMRC). The VDGIF submitted a response indicating current workload of the

agency could not accommodate a timely review, and advised to use the results of the resources search in relation to the proposed construction areas to identify areas of potential effect. Based on a review of the VDGIF resource inventory, it is clear the areas of direct effect will not impact the resources identified. VMRC coordinates wetlands permitting consultation with partner agencies United States Army Corps of Engineers (USACE) and the Virginia Department of Environmental Quality (VDEQ). Direct consultation with the USACE and VDEQ resulted in determinations that it does not appear that a Virginia Water Protection (VWP) or federal Nationwide permit will be required because the project as presented will not involve any impacts to surface waters or wetlands. Based on the determinations of partner state and federal wetland permitting agencies, further consultation with the VMRC is anticipated to result in a determination of no permitting required for the project.

An evaluation of the existing environmental characteristics and the proposed construction has determined that the project may impact environmental components of the proposed project property, particularly with respect to new construction at the proposed tower locations. However, these impacts are minor. The primary environmental effects of the proposed project include standard construction impacts to topography, soils, visual and aesthetic resources, and off-site water resources. Mitigation of topography, soils, and off-site water resource impacts will be implemented through strict adherence to Virginia erosion and sediment control and storm water management regulations during the design and construction of the project. The project will occur within proximity of designated Scenic Byways and is also located within the vicinity of the Shenandoah National Park, including the Blue Ridge Parkway and the Appalachian National Scenic Trail. These park resources, based on the topographic relief, provide views over much of Nelson County and the Rockfish River valley where the broadband project will occur. The proposed telecommunications towers for the project will utilize monopole construction, low overall height (<150ft), and no lighting to minimize any potential visual impacts to these visual and aesthetic resources. The appropriate mitigation of any potential indirect visual effects to Scenic Byways will involve coordination with Virginia Department of Transportation, the implementation of relevant Nelson County land use requirements imposed along Scenic Byways, and implementation of Nelson County tower ordinance requirements for painting of towers and attachments.

No long-term losses of significant resources are anticipated with this project. The proposed site will neither consume nor alter significant land and water resources. The proposed project will not generate other significant demands on natural resources of the immediate or surrounding area. The proposed project will not significantly disturb wildlife, essential habitats, or critical area sites. The assessment revealed no evidence of significant negative immediate or cumulative impacts in connection with the proposed project. Minor negative impacts with respect to aesthetic and visual resources and historic and cultural resources are anticipated due to the construction of new telecommunications tower facilities within a mostly rural area. Additional studies are underway, per the FCC's processes, to address these issues. Minor negative impacts are also anticipated which are a typical result of construction, including immediate land use changes, temporary soils impacts, and temporary impacts to water resources. The impacts to the land use, soils, and water resources at the site of the construction activity will be mitigated via the use of proper erosion control Best Management Practices, via compliance with Virginia erosion and sediment control regulations and storm water management regulations.

The current determination from the Virginia Department of Historic Resources (VDHR) concurs with a finding of "no adverse effect" for all of the proposed fiber optic cable installations, aerial and underground. The telecommunications tower sites require further investigation to comply with Section 106 review requirements. Nelson County will prepare additional studies and/or consultations, per the FCC's Nationwide Programmatic Agreement for Review of Effects of

Historic Properties for Certain Undertakings Approved by the Federal Communications Commission, the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers (FCC, 2004), including TCNS requirements, for the three (3) proposed tower sites, once final tower design and cultural resource due diligence is complete. The FCC will be completing the necessary Section 106 reviews for the new telecommunications towers, per their standard procedures through the FCC Form 620 authorization process. These studies will further determine the extent of direct or visual impacts for the project. Cultural resource investigations of the Afton and Avon sites have confirmed the initial determination. Future studies and consultations are also anticipated to result in a finding of “no adverse effect” to historic resources within the direct and visual Area of Potential Effect.

The assessment has determined that the proposed project will result in positive immediate and cumulative impacts on Infrastructure, Socioeconomics, and Human Health and Safety within Nelson County. The positive impacts from the project are an immediate result of expanded broadband availability to a primarily rural population currently without these services, as well as the cumulative long-term result of a further expanded broadband network and a future wireless network anticipated to be developed utilizing this new infrastructure. The system will provide new broadband infrastructure to support improvements to rural, disadvantaged, and low-income areas within Nelson County. These services will help to provide a venue for new economic opportunities to the rural communities of Nelson County. The new broadband services will contribute to the health and safety of the County by increasing the communications capacity of the County’s emergency and first responders, thus improving the ability to provide these services throughout the County. The new system will also improve the ability to provide time-sensitive transmission of critical information during emergencies. Access to healthcare for low income residents will be improved through the use of telemedicine technology and video conferencing to connect patients of the Blue Ridge Medical Center with health specialists at the University of Virginia Medical System.